addition of Claims 24-31 to include the deleted limitations from Claims 2-5 and 9-12. Claim 5 is also deemed to be a proper group.

The rejection of Claim 1 under 35 USC § 112, ¶ 2 is traversed, and reconsideration is requested for the reason given at the interview. That is, the term "intensity average noise level" refers to the parameter N* shown in Figs. 2-4 and described at Page 26, lines 10-21 of the Specification. We also pointed out the acceptance of this term in Claim 1 of said U.S. Patent No, 6,274,249. Thus, Claim 1 is fully compliant with 35 USC § 112.

The rejection of Claims 1-8 and 10-12 as being anticipated by EP '982 under 35 USC § 102(b), the rejection of Claims 1-8 and 10-12 as being unpatentable over EP '982 in view of JP '335 under 35 USC §103(a), and the rejection of Claim 9 as being unpatentable over EP '982 in view of JP '335 and Shima et al., also under 35 USC § 103(a), are traversed, and reconsideration is requested for the reasons pointed out at the interview as set forth below.

Claim 1 is specifically directed to a tool that has a Q_I value greater or equal to 1. It also is limited to a set of tools in which the tool is not a solid carbide end-mill and not a solid carbide ball nose mill. The recognition of both of these things has resulted in a patentable invention whereby, for the specified class of tools, there has been an astonishingly high improvement of wear resistance in the tools allowing the tools to be manufactured at the lowest possible cost.

The Office Action correctly observes that the EP '982 document discloses tools with a substrate of high-speed steel or cemented carbide coated with titanium aluminum nitride film. There is nothing in EP '982, or for that matter,

in JP '335 and Shima et al., to teach or suggest that the tool defined by Claim 1 should not include a solid carbide end-mill and not a solid carbide ball nose mill.

Of equal importance is the fact that the EP '982 document does not teach a tool which has a MeX layer in which the Q_I value is equal to or greater than 1. In fact, the EP '982 document does not appear to address the Q_I value at all. To the extent that the Office Action is based on the assumption that the claimed Q_I value is inherent in all such layers, applicants would direct attention to the discussion of Fig. 1 of the present application at pages 25 and 26 in which it becomes clear that by manipulating parameters such as bias voltage and nitrogen pressure, the Q_I value is adjustable. Applicants were the first to discover that the claimed Q_I value was essential to the improvement of tool life in the defined class of tools.

Although the JP '335 document does refer to a Q_I where $I(200)/I(111)$ ratio as being equal to or above 1.5, it does not do so in the context of the type of tools defined in Claim 1. Instead, the JP '335 document merely refers to a coated hard member producible by coating the surface of a base material with defined compounds such as carbides, etc. Aside from referencing the Q_I value, however, there would be no teaching of the value of such Q value for improving the wear resistance of tools defined in Claim 1 of the present application. For that reason alone, the hypothetical combination of EP '982 and JP '335 documents, with or without the inclusion of the Shima et al. document, does not set forth a *prima facie* case of obviousness based upon substantial record evidence.

Accordingly, reconsideration and favorable action upon the claims in this case are now earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #622/43770CO).

Respectfully submitted,

December 4, 2002
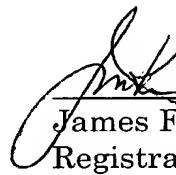
James F. McKeown
Registration No. 25,406

CROWELL & MORING, LLP
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844

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VERSION WITH MARKINGS TO SHOW CHANGES

IN THE CLAIMS:

2.   (Amended) The tool of claim 1 [being one] , wherein the tool is selected from a group consisting of a cemented carbide insert, a cemented carbide drill and a cemented carbide gear cutting tool [, preferably a cemented carbide insert or a cemented carbide drill].

3.   (Amended) The tool of claim 1 wherein there is valid for said Q_I:

$Q_I \geq 2$ [,

thereby preferably

$Q_I \geq 5$,

especially preferred

$Q_I \geq 10$].

4.   (Amended) The tool of claim 1, wherein said MeX material is [one] selected from the group consisting of titanium aluminum nitride, titanium aluminum carbonitride, and titanium aluminum boron nitride [, thereby preferably one of titanium aluminum nitride and titanium aluminum carbonitride].

5.   (Amended) The tool of claim 1, wherein Me [further] comprises at least one further element [out of] selected from the group consisting of born, zirconium, hafnium, yttrium, silicon, tungsten, and chromium [, thereby preferably of at least one of yttrium and silicon and boron].

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9.   (Amended) The tool of claim 1, wherein the stress within said at least one layer, σ, is

1 GPa $\leq \sigma \leq$ 6 GPa [, thereby preferably

1 GPa $\leq \sigma \leq$ 4 GPa, and even more preferred

1.5 GPa $\leq \sigma \leq$ 2.5 GPa].

10.   (Amended) The tool of claim 1, wherein the content x of titanium in said Me is:

70 at.% $\geq$ x $\geq$ 40 at.% [, preferably

65 at.% $\geq$ x $\geq$ 55 at.%].

11.   (Amended) the tool of claim 1, wherein the content y of aluminum in said Me is:

30 at.% $\leq$ y $\leq$ 60 at.% [, thereby preferably

35 at.% $\leq$ y $\leq$ 45 at.%].

12.   (Amended) The tool of claim 10, wherein the content y of aluminum in said Me is:

30 at.% $\leq$ y $\leq$ 60 at.% [, thereby preferably

35 at.% $\leq$ y $\leq$ 45 at.%].